Pre-Calculus Trigonometry Verbal Practice Problems:

1. Two ships leave port at the same time and sail on straight paths making an angle of 65° with each other. How far apart are the ships at the end of 3 hours if the speed of one ship is 25 km/h. and that of the other ship is 15 km/h?
2. From point A, the angle of elevation of the top of a building measures 32°. From B, a point that is 125 feet closer to the building, the angle of elevation at the top of the building measures 47°. Find, to the nearest foot, the height of the building.
3. Forces of 42 and 53 pounds act on a body so that the angle between the resultant and the larger force is 47°. Find to the nearest degree two possible measures of the angle between the resultant and the smaller force.

Exit Ticket:

Find to the nearest degree the obtuse angle of a parallelogram if the measures of two consecutive sides are 21 and 16 and the measure of the longer diagonal is 28.

Homework:

1. A signal tower has two lights that are 30 feet apart, one directly above the other. From a boat, the angle of elevation of the lower light is measured to be 14° and the angle of elevation of the upper light is measured to be 32°.
   1. Find to the nearest foot the distance from the boat to the lower light.
   2. Find to the nearest foot the distance from the boat to the foot of the tower.
2. The ladder to the top of the slide at the playground is 6 feet long and the distance down the slide is 16 feet. If the ladder and the slide make an angle of 95° with each other, what is the distance to the nearest foot from the bottom of the ladder to the end of the slide?
3. Two scuba divers are 20 meters apart below the surface of the water. They both spot a shark that is below them. The angle of depression from diver 1 to the shark is 47° and the angle of depression from diver 2 to the shark is 40°. How far are each of the divers from the shark? (Please note this question requires a lot of thought, that’s why it is homework! Try to do it by remembering your geometry and trigonometry and you can do this!)